

REMARKS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-21 are currently pending. Claims 1, 7-9, 15, and 16 have been amended; and Claim 21 has been canceled by the present amendment. The changes to the claims are supported by the originally filed specification and do not add new matter.

In the outstanding Office Action, Claim 1 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the Rhodes et al. reference (“Remembrance Agent: A Continuously Running Automated Information Retrieval System”) in view of U.S. Patent No. 6,567,800 to Barrera (hereinafter “the ‘800 patent”); Claims 2-4, 17, and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Rhodes et al. reference in view of the ‘800 patent and U.S. Patent No. 6,094,681 to Schaffer et al. (hereinafter “the ‘681 patent”); Claims 5, 6, 18, and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Rhodes et al. reference in view of the ‘800 and ‘681 patents, further in view of U.S. Patent No. 5,974,412 to Hazlehurst (hereinafter “the ‘412 patent”); Claim 21 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the Rhodes reference, the ‘800 patent, and U.S. Patent No. 6,070,158 to Kirsch et al. (hereinafter “the ‘158 patent”); Claims 7 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘412 patent in view of the ‘681 patent; Claims 9 and 12-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘681 patent in view of the Lachman reference (“Animist Interface; Experiments And Mapping Character Animation To Computer Interface”), further in view of the ‘158 patent; and Claims 10 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘681 patent, the Lachman reference, and the ‘158 patent, further in view of the Horvitz et al. reference (“The Lumiere Project: Bayesian User Modeling for Inferring the Goals and Needs of Software Users”).

Amended Claim 1 is directed to an information processing apparatus, comprising: (1) an event occurrence detection device configured to detect an occurrence of an event; (2) an extraction device configured to extract attribute information and a keyword from a first document corresponding to the event, the attribute information and the keyword being extracted from different portions of the first document; (3) a search device configured to search a database using the extracted attribute information and the extracted keyword to retrieve a second document having matching attribute information having similarity to the attribute information extracted from the first document and the second document containing the extracted keyword; and (4) a display control device configured to display associated information corresponding to the second document, wherein the extraction device is configured to extract a plurality of keywords from the first document; and the search device is configured to extract the keyword from the plurality of keywords based on changes in corresponding keyword weights of the plurality of keywords during two different predetermined time periods prior to a time of the extraction. The changes to Claim 1 are supported by the originally filed specification and do not add new matter.¹

Regarding the rejection of Claim 1 under 35 U.S.C. §103(a), the Office Action asserts that the Rhodes reference discloses everything in Claim 1 with the exception of “...the second document needing to have both the keyword and attribute,”² and relies on the ‘800 patent to remedy that deficiency.

Applicants respectfully submit that the rejection of Claim 1 (and all associated dependent claims) is rendered moot by the present amendment to Claim 1.

The Rhodes et al. reference is directed to a program called the “Remembrance Agent” (RA) that augments human memory by displaying a list of documents that might be relevant to the user’s current context. In particular, the Rhodes et al. reference discloses that the RA

¹ See previous Claim 21 as well as Figure 6 and the discussion related thereto in the specification.

² See page 4 of the outstanding Office Action.

runs continuously in the background without user intervention, and every few seconds collects text within certain ranges around the current cursor position and sends the text to an information retrieval program. Further, the Rhodes et al. reference discloses that the information retrieval program produces suggestions of similar documents from the pool of documents that are pre-indexed on a nightly basis and that a line of text is presented to the user indicating various information about a document that could be relevant to the user's current context. In particular, the Rhodes et al. reference discloses that the suggestions presented to the user are kept to a single line each, and are always printed at the bottom of a text editor window. In particular, Applicants note that the Rhodes et al. reference discloses that the basis for selecting a document that might be similar to the user's current context is "...document similarity based on the frequency of words common to the query and reference documents."³

However, Applicants respectfully submit that the Rhodes et al. reference fails to disclose a search device configured to search a database using the extracted attribute information and the extracted keyword (the attribute information and the keyword being extracted from different portions of a first document) to retrieve a second document having matching attribute information having similarity to the attribute information extracted from the first document and the second document containing the extract keyword. In particular, Applicants respectfully submit that the Rhodes et al. reference is silent regarding a search device that finds attribute information having similarity to attribute information extracted from the first document, as well as the second document that contains the extracted keyword, which was extracted from the first document. Rather, the Rhodes et al. reference merely discloses that the basis of a similar document is the frequency of words that are common to two documents. On the contrary, Claim 1 requires matching both attribute information of a

³ See Rhodes et al. reference, page 122, right column. Emphasis added.

first document and a second document, and matching a keyword that is in the first document and also in the second document.

Further, Applicants respectfully submit that the Rhodes reference fails to disclose that the search device is configured to extract the keyword from the plurality of keywords based on changes in corresponding keywords weights of the plurality keywords during two different predetermined time periods prior to a time of the extraction, as recited in amended Claim 1.

The '800 patent is directed to a system and method for searching web sites that uses category information to narrow the range of a website content search. In particular, the '800 patent discloses a method for searching for information stored on web sites including the steps of receiving a category selection, receiving a content search request for content in the selected category, and performing a content search on retrieved web site content that is correlated with the selected category.

However, Applicants respectfully submit that the '800 patent fails to disclose a search device that is configured to extract the keyword from the plurality of keywords based on changes in corresponding keyword weights of the plurality of keywords during two different predetermined time periods prior to a time of the extraction, as recited in amended Claim 1.

In a non-limiting example, Applicants refer the Examiner to the time periods shown in Figure 6, as well as the discussion related thereto in the specification.

Further, Applicants note that, regarding the limitations recited in previous Claim 21, the Office Action cites to columns 10, 17, and 18 in the '158 patent as disclosing selecting a first keyword from a plurality of keywords based on corresponding keyword weights of the keywords during a predetermined time period immediately prior to a time of the selection. However, Applicants respectfully submit that the cited sections in the '158 patent are silent regarding the changes in keyword weights in the two different predetermined time periods recited in amended Claim 1.

Thus, no matter how the teachings of the Rhodes reference, the '800 patent, and the '158 patent are combined, the combination does not teach or suggest a search device configured to extract a keyword from the plurality of keywords based on changes in corresponding keyword weights of the plurality keywords during two different predetermined time periods prior to a time of the extraction, as recited in amended Claim 1. Accordingly, Applicants respectfully submit that the rejection of Claim 1 (and all associated dependent claims) is rendered moot.

Amended Claim 7 is directed to an information processing method for an information processing apparatus for detecting a keyword from a text file corresponding to an event that has taken place and displaying associated information corresponding to the keyword, comprising: (1) extracting attribute information from a plurality of existing text files; (2) extracting existing keywords from among words contained in said plurality of existing text files; (3) computing weights for said existing keywords based on use of occurrence frequency in each text file and distribution over the plurality of existing text files, sorting the plurality of existing text files in a time-dependent manner, determining important keywords as those keywords of the extracted existing keywords having a computed weight higher than a predetermined threshold, and acquiring associated information for each important keyword in descending order of the computed weight of the important keyword, the associated information being obtained by accessing a search engine on the Internet using each important keyword as a search term; (4) constructing a database by associating each important word with at least one of said attribute information extracted in the extracting step and said associated information acquired in the acquiring step; (5) detecting an occurrence of said event; (6) detecting an event keyword from said text file corresponding to said event detected in the event occurrence detecting step; (7) searching said database constructed in the database constructing step to retrieve said associated information corresponding to said event keyword

detected in the event keyword detecting step; and (8) controlling displaying of said associated information retrieved in the searching step. The changes to claim 7 are supported by the originally filed specification and do not add new matter.⁴

Regarding the rejection of Claim 7 under 35 U.S.C. § 103(a), the Office Action asserts that the '412 patent discloses everything in Claim 7 with the exception of user interactions as events, detecting an occurrence of an event, detecting an event keyword, searching a database to retrieve associated information, and controlling displaying of that associated information, and relies on the '681 patent to remedy those deficiencies.

The '412 patent is directed to a system for identifying information, including (1) multiple information sets each representing a portion of the information; and (2) multiple collators each independently deriving vector spaces from associated information sets and identifying concepts in the vector spaces, wherein the multiple collators independently identify information in the associated information sets according to the identified concepts in the vector spaces and compete against each other to identify relevant information in response to information queries. In particular, as shown in Figure 4, the '412 patent discloses a system in which information sources are processed using "grinders," "tanks," "mites," and "collators," so as to generate a set of indices for the information and to extract keywords from the document so as to organize the information from the information sources. Thus, the '412 patent discloses an intelligent query engine that uses machine learning techniques to facilitate the automated emergence of information spaces in which objects are represented as vectors of real numbers. Further, the '412 patent discloses that the system delivers information to users based on similarity measures applied to the representation of the objects in the information spaces.

⁴ See, e.g., Figure 3 and the discussion related thereto in the specification.

However, as admitted in the outstanding Office Action, the '412 patent fails to disclose detecting an occurrence of an event, detecting an event keyword, searching the database constructed in the database construction step, and controlling display of the associated information retrieved in the searching step, as recited in amended Claim 7.

Further, Applicants respectfully submit that the '412 patent fails to disclose competing weights for the existing keywords based on the use of occurrence frequency in each text file and distribution over the plurality of existing text files, sorting the plurality of existing text files in a time dependent manner, determining important keywords as those keywords of the extracted existing keywords having a computed weight higher than a predetermined threshold, and acquiring associated information for each important keyword in descending order of the computed weight of the important keyword, the associated information being obtained by accessing a search engine on the Internet using each important keyword as a search term, as recited in amended Claim 7.

While the '412 patent discloses a system that analyzes documents, extracts keywords from those documents, and organizes the associated information space, the '412 patent is silent regarding acquiring associated information by accessing a search engine on the Internet using each important keyword as a search term, wherein the important keyword is obtained from a text file, as recited in amended Claim 7. Rather, the '412 patent merely discloses “grinding” and extracting of information from a text file.

In particular, Applicants note that page 12 of the outstanding Office Action relies on column 9, lines 7-41 in the '412 patent as disclosing the computing step recited in Claim 7. However, Applicants note that while column 9 of the '412 patent discloses that “... words are assigned weights proportional to their frequency in a document...,”⁵ this process is performed by a grinder 100 which generates the index log 2, as shown in Figure 7 of the '412 patent.

⁵ '412 patent, column 9, lines 28-29.

Further, Applicants note that Claim 7 defines each important keyword as a keyword having a weight higher than a predetermined threshold, and that associated information for each important keyword (that has a weight higher than a predetermined threshold) is obtained by accessing the search engine on the Internet using each important keyword as a search term. However, Applicants note that the Office Action, in addressing the acquiring step recited in Claim 7 refers to various sections in column 7, 8, 9, 19, 21, 24, and 25 of the '412 patent.

However, Applicants note that the Office Action does not relate the weights assigned by the grinder 100 to the keywords to the claimed predetermined threshold or to the obtaining of associated information using a search engine on the Internet. Rather, the Office Action refers to the "liaisons" shown, for example, in Figures 4, 8, and 14A, but does not relate the liaisons to the weights assigned by the grinder 100, and does not cite a passage which states that when the weights assigned by the grinder 100 exceed a predetermined threshold, associated information is obtained by accessing a search engine on the Internet using each important keyword as a search term, as required by amended Claim 7. Rather, the Office Action appears to merely cite the passages that contain the word "threshold" within the '412 patent, but Applicants note that those passages are not related to the weights discussed in column 9 of the '412 patent.

For example, the passage in column 19 discusses whether a document having a "goodness" score exceeds a threshold for one or more collators to select that document. However, Applicants respectfully submit that this is not a disclosure that when a weight of a keyword exceeds a threshold, associated information is obtained by accessing a search engine on the Internet using the important key word as a search term, as required by Claim 7. Rather, the passage in column 19 of the '412 patent is concerned with whether a mite 106 determines that a candidate document should be distributed based upon its "goodness" score.

Further, Applicants note that use of the word “threshold” in column 21 of the ‘412 patent relates to whether object vectors are within a particular distance of centroid vectors, and that this disclosure is unrelated to the weights disclosed in column 9 of the ‘412 patent, and unrelated to keywords having a weight higher than a predetermined threshold, and obtaining associated information for each keyword having a weight higher than a predetermined threshold, as required by Claim 7.

The ‘681 patent is directed to a method for automatically providing remote notification of an ongoing event that includes detecting the event by receiving presently occurring data and analyzing the content of the data by using a data filter. In particular, the ‘681 patent is directed to a method for providing automatic remote notification of a locally detected event including designating at least one event as being of interest to a first user of a data network, monitoring the specified user-intended messages received via the data network for conveying message information to the first user; analyzing a content of the specified messages to determine whether the content is indicative of occurrence of one of the designated events; determining whether the first user is available to receive an automated event notification if the occurrence of an event is detected; automatically establishing a telecommunications link to a specified remote user device in response to a determination that the first user is unavailable; and transmitting the automated event notification to the specified remote user communication device via the telecommunications link.

However, Applicants respectfully submit that the ‘681 patent fails to disclose sorting the plurality of existing text files in a time dependent manner, determining important keywords as those keywords of the extracted existing keywords having a computed weight higher than a predetermined threshold, and acquiring associated information for each important keyword in descending order of the computed weight of the important keyword, the associated information being obtained by accessing a search engine on the Internet using

each important keyword as a search term, as recited in amended Claim 7. Applicants respectfully submit that the '681 patent was not relied upon by the Examiner for disclosing the acquiring step recited in Claim 7.

Thus, no matter how the teachings of the '412 and '681 patents are combined, the combination does not teach or suggest the computing, sorting, determining, and acquiring steps recited in amended Claim 7. In particular, the combination does not teach or suggest acquiring associated information for each important keyword in descending order of the computed weight of the important keyword, wherein the important keyword is determined as those keywords of the extracted keywords having a computed weight higher than a predetermined threshold, as recited in Claim 7. Further, the combination does not teach or suggest sorting the plurality of existing text files in a time dependent manner, as recited in amended Claim 7. Accordingly, for the reasons stated above, Applicants respectfully submit that the rejection of Claim 7 is rendered moot by the present amendment to that claim.

Independent Claim 8 recites limitations analogous to the limitations recited in Claim 7, and has been amended in a manner analogous to the amendment to Claim 7. Accordingly, for the reasons stated above for the patentability of Claim 7, Applicants respectfully submit that the rejection of Claim 8 is rendered moot by the present amendment to that claim.

Amended Claim 9 is directed to an information processing apparatus for displaying an animated agent on a display device and for displaying associated information related to a text file processed by a predetermined application program, comprising: (1) a processing detection device configured to detect, as an event, predetermined processing of said predetermined application program; (2) a keyword detection device configured to detect a plurality of keywords from said text file processed by said predetermined application program corresponding to said event detected by said processing detection device; (3) means for computing weights for said keywords based on use of occurrence frequency in the text

file, selecting an important keyword from the plurality of keywords based on changes in corresponding keyword weights of the plurality of keywords during two different predetermined time periods prior to a time of the selection, and searching for said associated information for the important keyword by searching a database for a previously processed existing file corresponding to the important keyword; an input device configured to input a command; (4) a command processing device configured to execute, in response to said command inputted by said input device, processing on said associated information; and (5) a display control device configured to display, in response to said event detected by said processing detection device, said animated agent onto said display device and changing a manner of displaying said animated agent in response to said command inputted by said input device. The changes to Claim 9 are supported by the originally filed specification and do not add new matter.⁶

Regarding the rejection of Claim 9 under 35 U.S.C. § 103(a), the Office Action asserts that the '681 and '158 patents fail to disclose everything in Claim 9 with the exception of the claimed animated agent, and relies on the Lachman reference to remedy those deficiencies.

As discussed above, the '681 patent is directed to a method for automatically providing remote notification of an ongoing event that includes detecting the event by receiving presently occurring data and analyzing the content of the data by using the data filter.

However, as admitted in the outstanding Office Action, the '681 patent fails to disclose the animated agent recited in Claim 9.

Further, Applicants respectfully submit that the '681 patent fails to disclose selecting an important keyword from the plurality of keywords based on changes in corresponding

⁶ See Figures 5 and 6 and the discussion related thereto in the specification.

keyword weights of the plurality of keywords during two different predetermined time periods, as recited in amended Claim 9. Further, the '681 patent fails to disclose searching for the associated information for the important keyword by searching a database for a previously processed existing file corresponding to the important keyword, as recited in amended Claim 9.

The '158 patent is directed to a collection search system responsive to a user query regarding a collection of documents to provide a search report.

However, as admitted in the outstanding Office Action, the '158 patent fails to disclose the animated agent recited in Claim 9. Further, Applicants respectfully submit that the '158 patent fails to disclose means for selecting an important keyword from the plurality of keywords based on changes in corresponding keyword weights of the plurality of keywords during two different predetermined time periods prior to a time of the selection, as recited in amended Claim 9.

The Lachman reference is directed to the use of character animation in computer user interfaces and discloses various animated agents used to assist a user in navigating a software program.

However, Applicants respectfully submit that the Lachman reference fails to cure the deficiencies of the '158 and '681 patents, as discussed above. In particular, Applicants respectfully submit that the Lachman reference fails to disclose the means for selecting an important keyword from the plurality of keywords, as recited in amended Claim 9.

Thus, no matter how the teachings of the '681 patent, the '158 patent, and the Lachman reference are combined, the combination does not teach or suggest means for selecting an important keyword from the plurality of keywords based on changes in corresponding keyword weights of the plurality of keywords during two different predetermined time periods prior to a time of the selection, as recited in amended Claim 9.

Accordingly, Applicants respectfully submit that the rejection of Claim 9 is rendered moot and that Claim 9 patentably defines over any proper combination of the cited references.

Independent Claims 15 and 16 recite limitations analogous to the limitations recited in Claim 9, and have been amended in a manner analogous to the amendment to Claim 9.

Accordingly, for the reasons stated above regarding Claim 9, Applicants respectfully submit that the rejections of Claims 15 and 16 are rendered moot by the present amendment to those claims.

Regarding the rejection of dependent Claims 2-6, 10, 11, and 17-20 under 35 U.S.C. § 103(a), Applicants respectfully submit that the Horvitz reference, the '681 patent, the '800 patent, and the '412 patent fail to remedy the deficiencies of the Rhodes et al. reference, as discussed above. Accordingly, Applicants respectfully submit that the rejections of the above-noted dependent claims are rendered moot by the present amendment to Claims 1 and 9.

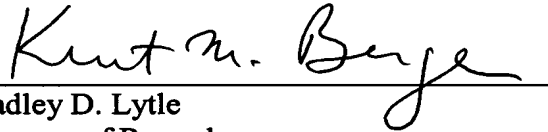
Applicants respectfully submit that the rejection of Claim 21 is rendered moot by the present cancellation of that claim.

Thus, it is respectfully submitted that independent Claims 1, 7-9, 15, and 16 (and all associated dependent claims) patentably define over any proper combination of the cited references.

Consequently, in view of the present amendment and in light of the above discussion, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read "Kurt M. Berger", is written over a horizontal line.

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